UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,083	08/25/2006	Joachim Lohr	L7725.06104	7774

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DICKINSON WRIGHT PLLC
1901 L STREET NW
SUITE 800
WASHINGTON, DC 20036

EXAMINER
DOAN, PHUOC HUU

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/568,083	LOHR ET AL.
	Examiner	Art Unit	
	PHUOC H. DOAN	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-20* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____ .
      3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>04/07/06; 02/13/06</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

2.   Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kim (US Pub No: 2003/0031119) in view of Sagfors (US Pub No: 2005/0002412).

As to claim 1, Kim discloses a data transmission method for use in a mobile

communication system comprising a communication terminal and a plurality of

base stations (page 2, paragraph [0016]), the communication terminal being in

communication with said plurality of base stations during a soft handover (page 2,

par. [0016] "FCS is a technique assuming characteristics between a soft handover

and a hard handover that occur in conventional mobile communication systems"),

the method comprising the steps of: receiving a data packet from the

communication terminal at the plurality of base stations (page 2, par [0016] "UE

receives signals with strengths at or above an acceptable level from cell or base

station"), checking data integrity of the received data packet at each of the base

stations (page 2, par [0020]), storing the received data packet in a buffer of the

respective base station (page 2, par [0017] "the Node Bs store the data in buffers

for the case of being the best cell"), and if data integrity of the received data packet

was acknowledged by a base station, transmitting control information from the

respective base station to at least one other base station of said plurality of base

stations (page 2, par [0018-0019] "the UE can receive downlink transmission on a

plurality of radio link"), wherein the control information indicates that the data

integrity of the received data packet was acknowledged (page 2, par [0021] "the

ACK received from the UE"). However, Kim does not disclose if data integrity of

the received data packet was not acknowledged by a base station.

In the same field of endeavor, Sagfors discloses if data integrity of the

received data packet was not acknowledged by a base station (page 1, par [0021]

"retransmission timer times out without a packet being acknowledged during the

retransmission time of the packet"). Therefore, it would have been obvious to one

of ordinary skill in the art at the time the invention was made to provide if data

integrity of the received data packet was not acknowledged by a base station as

taught by Sagfors to the system of Kim in order to reduce the packet delay.

As to claim 2, Kim further discloses the method according to claim 1, further

comprising the step of: in response to receiving said control information at said at

least one other base station (page 2, par [0019]), flushing the buffer at each base station that did not acknowledge data integrity of the received data packet (page 2, par [0017]).

As to claim 3, Kim further discloses the method according to claim 1, further comprising the step of: transmitting a feedback message from one of said plurality of base stations to the communication terminal indicating whether at least one of said plurality of base stations acknowledged data integrity of the received data packet (page 2, par [0022]).

As to claim 4, the combination of Kim and Sagfors disclose the method according to claim 1, further comprising the step of: if a base station did not acknowledge data integrity of the received data packet (page 2, par. [0022] of Kim), transmitting control information from said base station to at least one the other base stations of the plurality of base stations (page 2, par [0019] of Kim), wherein the control information indicates that the data integrity of the received data packet was not acknowledged (page 1, par [0021] of Sagfors).

As to claim 5, Kim further discloses the method according to claim 3, wherein said

one base station transmitting the feedback message to the communication terminal

determines whether at least one of said plurality of base stations acknowledged

data integrity of the received data packet by evaluating the control information

received from said other base stations prior to transmitting the feedback message to

the communication terminal (page 5, par [0068]).

As to claim 6, Kim further discloses the method according to claim 1, wherein said

control information is transmitted from a transmitting base station via a control

unit to a destination base station (page 5, par [0065]).

As to claim 7, Kim further discloses the method according to claim 3, further

comprising the step of selecting said one base station for transmitting said

feedback message to the communication terminal by a control unit connected to

each base station of said plurality of base stations (page 5, par [0068] "selection the

best cell based on the HS-DSCH has error or not (ACK/NACK)").

As to claim 8, Kim further discloses the method according to claim 7, wherein said

control unit evaluates downlink channel quality information indicating the

downlink channel qualities between the communication terminal and each base

station of the plurality of base stations, and selects said one base station for

transmitting the feedback message to the communication terminal based on the

evaluation result (page 5, par [0068]).

As to claim 9, Kim further discloses the method according to claim 3, further

comprising the steps of: each base station of said plurality of base stations

determining downlink channel quality information indicating the downlink channel

quality between the communication terminal and the respective base station (page

5, par [0070]), each base station of said plurality of base stations transmitting said

determined downlink channel quality information to the other base stations of said

plurality of base stations (page 5, par [0070]), each base station of said plurality of

base stations receiving the transmitted downlink channel quality information from

the other base stations of said plurality of base stations (page 5, par [0070]), each

base station of said plurality of base stations evaluating the downlink channel

quality information received from said other base stations and the downlink

channel quality information determined by itself to determine the best downlink

channel quality characteristic (page 5, par [0068-0069' "where is the best cell is

changed and select"), and the base station having the best downlink channel quality

characteristic transmitting said feedback message to the communication terminal

(page 5, par [0068-0069]).

As to claim 10, Kim further disclose the method according to claim 3, further

comprising the step of: if said one base station transmitting said feedback message

to the communication terminal determines that another base station has the best

downlink channel quality characteristic (page 5, par [0068]), transmitting a

selection message from said one base station to said other base station assigning to

said other base station the task of transmitting a feedback message to the

communication terminal for future data integrity acknowledgement (page 5, par

[0068], [0070]).

As to claim 11, Kim further discloses the method according to claim 10, wherein

the determination of said base station having the best downlink channel quality

characteristic comprises the steps of: each base station of said plurality of base

stations determining downlink channel quality information indicating the downlink

channel quality between the communication terminal and the respective base

station (page 5, par [0070]), each base station of said plurality of base stations

except the base station transmitting the feedback message to the communication

terminal, transmitting said determined downlink channel quality information to

said base station transmitting said feedback message (page 5, par [0070]), said one

base station transmitting said feedback message receiving the transmitted downlink

channel quality information from the other base stations of said plurality of base

stations (page 5, par [0070]), and evaluating the downlink channel quality

information received from said other base stations and the downlink channel

quality information determined by itself to determine the best downlink channel

quality characteristic (page 5, par [0070], page 6, par [0079]).

As to claim 12, Kim further discloses the method according to claim 8, wherein the

evaluation of the downlink channel quality information comprises the step of

averaging parameters in the downlink channel quality information (page 5, par

[0070]), wherein the selection is based on the averaged downlink channel quality

(page 5, par [0068], [0070]).

As to claim 13, Kim further discloses the method according to claim 1, further

comprising the step of: forwarding the received data packet to a control unit in the

mobile communication system by at least one of the base stations that did

acknowledge data integrity of the received data packet (page 5, par [9968]).

As to claim 14, Kim further discloses the method according to claim 1, wherein the

data packet is received via a dedicated channel (page 3, par [0024]).

As to claim 15, the combination of Kim and Sagfors further disclose a data packet

retransmission method in a mobile communication system comprising a

communication terminal and a plurality of base stations (page 5, par [0062] of

Kim), the communication terminal being in communication with said plurality of

base stations during a soft handover (page 4, par [0061] of Kim), wherein each

base station of said plurality of base stations comprises means for controlling and

enabling data packet retransmissions between the respective base station and said

communication terminal in accordance with a packet retransmission scheme (page

5, par [0062] of Kim), and wherein said means comprises a buffer for storing data

packets received at the respective base station for which data integrity was not

acknowledged (page 1, par [0021] of Sagfors), wherein the buffer is updated using

the method according to claim 1 (page 1, par [0021], page 5, par 4 [0075] of

Sagfors).

As to claim 16, Kim further discloses the method according to claim 15, wherein

the retransmission scheme is a window based packet retransmission scheme using

a receiver window to control packet retransmissions (page 1, par [0012]) , and the

control information exchanged among the base stations comprises a pointer

pointing to the upper edge or lower edge of the receiver window (page 6 par [0079-

0080] "a pointer pointing to the receiver window based on the cell ID that provided

by indicating the type of a control frame in combined with header or MAC").

As to claim 17, Kim further discloses the method according to claim 15, wherein

the retransmission scheme is a stop-and-wait packet retransmission scheme with at

least one retransmission process (page 5, par [0062]), and the control information

exchanged among the base stations comprises a process number identifying a data

packet retransmission process (page 5, par [0062]), and an indicator for indicating

whether the data packet's integrity can be acknowledged (page 5, par [0068]).

As to claim 18, Kim further discloses the method according to claim 17, wherein

the control information exchanged among the base stations further comprises a

sequence number or data indicator identifying the received data packet at the

receiving base station (page 6, par [0080]).

As to claim 19, Kim further discloses the method according to claim 15, wherein

the control information exchanged among the base stations comprises an identifier

identifying the communication terminal (page 6, par [0079]).

As to claim 20, Kim further discloses a base station in a mobile communication

system comprising a communication terminal and a plurality of base stations (page

5 par [0065]), wherein the communication terminal is in communication with said

plurality of base stations during a soft handover (page 4, par [0061]), and wherein

said base station comprises means for implementing the method according to claim

1 (page 5, par [0062]).

Conclusion

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to PHUOC H. DOAN whose telephone number is

571-272-7920. The examiner can normally be reached on 9:30 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, VINCENT HARPER can be reached on 571-272-7605.

The fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR

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direct.uspto.gov. Should you have questions on access to the Private PAIR system,

contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you

would like assistance from a USPTO Customer Service Representative or access to

the automated information system, call 800-786-9199 (IN USA OR CANADA) or

571-272-1000.

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617

/PHUOC DOAN/
05/10/08